

SUMMARY DATA FOR CASE 7C

This section contains the following economic data for case 7C:

- Capital Investment and Revenue Requirement Summary
- Total Plant Cost

CAPITAL INVESTMENT & REVENUE REQUIREMENT SUMMARY			
TITLE/DEFINITION			
Case:	Super-Critical PC w/o CO ₂		
Plant Size:	462.1 (MW,net)	HeatRate:	8,421 (Btu/kWh)
Primary/Secondary Fuel(type):	Illinois #6	Cost:	1.24 (\$/MMBtu)
Design/Construction:	4 (years)	BookLife:	20 (years)
TPC(Plant Cost) Year:	1999 (Dec.)	TPI Year:	2000 (Jan.)
Capacity Factor:	65 (%)	CO ₂ Removed	(tons/year)
CAPITAL INVESTMENT			
		\$x1000	\$/kW
Process Capital & Facilities		434,047	939.4
Engineering(incl.C.M.,H.O.& Fee)		26,043	56.4
Process Contingency			
Project Contingency		67,987	147.1
TOTAL PLANT COST(TPC)		\$528,077	1142.9
TOTAL CASH EXPENDED	\$528,077		
AFDC	\$42,842		
TOTAL PLANT INVESTMENT(TPI)		\$570,919	1235.6
Royalty Allowance			
Preproduction Costs		15,064	32.6
Inventory Capital		5,530	12.0
Initial Catalyst & Chemicals(w/equip.)			
Land Cost		512	1.1
TOTAL CAPITAL REQUIREMENT(TCR)		\$592,025	1281.3
OPERATING & MAINTENANCE COSTS (1999 Dollars)			
		\$x1000	\$/kW-yr
Operating Labor		4,815	10.4
Maintenance Labor		2,635	5.7
Maintenance Material		3,953	8.6
Administrative & Support Labor		1,863	4.0
TOTAL OPERATION & MAINTENANCE		\$13,266	28.7
FIXED O & M			20.15 \$/kW-yr
VARIABLE O & M			0.15 ¢/kWh
CONSUMABLE OPERATING COSTS,less Fuel (1999 Dollars)			
		\$x1000	¢/kWh
Water		537	0.02
Chemicals		6,183	0.24
Other Consumables		2,909	0.11
Waste Disposal		3,315	0.13
TOTAL CONSUMABLE OPERATING COSTS		\$12,945	0.49
BY-PRODUCT CREDITS (1999 Dollars)			
FUEL COST (1999 Dollars)		\$27,473	1.04
PRODUCTION COST SUMMARY			
	Levelized (Over Book Life \$)		
	\$/ton CO₂		¢/kWh
Fixed O & M		20.2/kW-yr	0.35
Variable O & M			0.15
Consumables			0.49
By-product Credit			
Fuel			1.04
TOTAL PRODUCTION COST			2.04
LEVELIZED CARRYING CHARGES(Capital)		176.8/kW-yr	3.11
LEVELIZED (Over Book Life) BUSBAR COST OF POWER			5.15

ESTIMATE BASIS/FINANCIAL CRITERIA for REVENUE REQUIREMENT CALCULATIONS			
GENERAL DATA/CHARACTERISTICS			
Case Title:	Super-Critical PC w/o CO2		
Unit Size:/Plant Size:	462.1 MW,net	462.1 MWe	
Location:	East-West Region		
Fuel: Primary/Secondary	Illinois #6		
Energy From Primary/Secondary Fuels	8,421 Btu/kWh	Btu/kWh	
Levelized Capacity Factor / Preproduction(equivalent months):	65 %	1 months	
Capital Cost Year Dollars (Reference Year Dollars):	1999 (December)		
Delivered Cost of Primary/Secondary Fuel	1.24 \$/MBtu	\$/MBtu	
Design/Construction Period:	4 years		
Plant Startup Date (1st. Year Dollars):	2000 (January)		
Land Area/Unit Cost	320 acre	\$1,600 /acre	
FINANCIAL CRITERIA			
Project Book Life:	20 years		
Book Salvage Value:	%		
Project Tax Life:	20 years		
Tax Depreciation Method:	Accel. based on ACRS Class		
Property Tax Rate:	1.0 % per year		
Insurance Tax Rate:	1.0 % per year		
Federal Income Tax Rate:	34.0 %		
State Income Tax Rate:	4.2 %		
Investment Tax Credit/% Eligible	%		%
Economic Basis:	Over Book Lif Constant Dollars		
Capital Structure	% of Total	Cost(%)	
Common Equity	45	12.00	
Preferred Stock	10	8.50	
Debt	45	9.00	
Weighted Cost of Capital:(after tax)			8.76 %
	Over Book Life	1999 to 2000	
Escalation Rates	General	% per year	% per year
	Primary Fuel	% per year	% per year
	Secondary Fuel	% per year	% per year

Client: Project:		EPRIDOE VISION 21 INNOVATIVE POWER CYCLES		Report Date: 28-Aug-2000 01:40 PM						
Case: Plant Size:		Super-Critical PC w/o CO2 462.1 MW.net		Estimate Type: Conceptual						
		TOTAL PLANT COST SUMMARY		Cost Base (Dec) 1999 (\$x1000)						
Acct No.	Item/Description	Equipment Cost	Material Cost	Labor Direct Indirect	Sales Tax	Bare Erected Cost \$	Eng'g CM H.O. & Fee	Contingencies Process Project	TOTAL PLANT COST \$	\$/kW
1	COAL & SORBENT HANDLING	7,337	2,218	5,858 410		\$15,822	949	3,354	\$20,126	44
2	COAL & SORBENT PREP & FEED	9,199		3,000 210		\$12,409	745	2,631	\$15,784	34
3	FEEDWATER & MISC. BOP SYSTEMS	16,496		7,815 547		\$24,858	1,491	5,981	\$32,330	70
4	PC BOILER & ACCESSORIES	73,384		29,348 2,054		\$104,787	6,287	11,107	\$122,182	264
4.1	PC Boiler									
4.2	Open									
4.3	Open									
4.4-4.9	Boiler BoP (w/ID & ID Fans) SUBTOTAL 4	3,489 76,874		1,204 30,552 2,139	84	\$4,777 \$109,564	287 6,374	506 11,614	\$5,570 \$127,752	12 276
5A	FLUE GAS CLEANUP	38,574		21,414 1,499		\$61,486	3,689	6,518	\$71,693	155
5B	CO2 REMOVAL & COMPRESSION									
6	COMBUSTION TURBINE/ACCESSORIE	N/A								
6.1	Combustion Turbine Generator									
6.2-6.9	Combustion Turbine Accessories SUBTOTAL 6									
7	HRSG, DUCTING & STACK	N/A								
7.1	Heat Recovery Steam Generator									
7.2-7.9	HRSG Accessories, Ductwork and Stack SUBTOTAL 7	10,259 10,259	918 918	8,753 8,753 613 613		\$20,544 \$20,544	1,233 1,233	3,602 3,602	\$25,378 \$25,378	55 55
8	STEAM TURBINE GENERATOR									
8.1	Steam TG & Accessories	41,141		7,100 497		\$48,738	2,924	5,166	\$56,829	123
8.2-8.9	Turbine Plant Auxiliaries and Steam Pipin SUBTOTAL 8	14,701 55,842	600 600	8,267 15,367 579 1,076		\$24,147 \$72,885	1,449 4,373	4,494 9,660	\$30,089 \$86,918	65 188
9	COOLING WATER SYSTEM	5,908	6,834	6,394 448		\$19,584	1,175	4,014	\$24,773	54
10	ASH/SPENT SORBENT HANDLING SYS	6,288	85	12,037 843		\$19,252	1,155	3,094	\$23,502	51
11	ACCESSORY ELECTRIC PLANT	9,929	3,140	10,358 725		\$24,152	1,449	4,118	\$29,719	64
12	INSTRUMENTATION & CONTROL	6,452		2,700 189		\$9,341	560	1,253	\$11,155	24
13	IMPROVEMENTS TO SITE	2,063	1,216	4,834 338		\$8,450	507	2,687	\$11,644	25
14	BUILDINGS & STRUCTURES		15,912	18,493 1,295		\$35,699	2,142	9,460	\$47,302	102
TOTAL COST		\$245,221	\$30,923	\$147,574 \$10,330		\$434,047	\$26,043	\$67,987	\$528,077	1143